

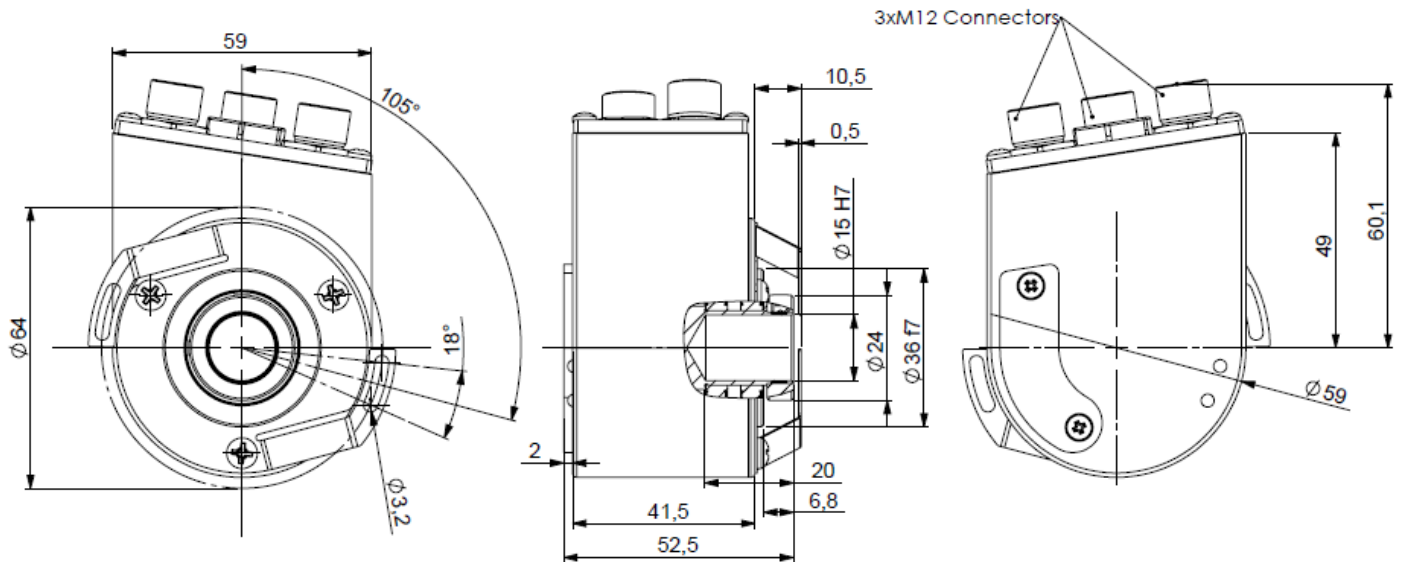
## ABSOLUTE MULTI-TURN ENCODER, PROFIBUS INTERFACE, PHK5 SERIE (3 x M12)

PHK5, new generation of Profibus absolute multi-turn encoders :

- Extra-flat encoder, blind shaft up to 14mm (15mm option), reduction hubs available: 6, 8, 10, 12mm,
- Also available in through shaft version,
- Robustness and excellent resistance to shocks / vibrations,
- High protection level IP65,
- High performances in temperature -20°C to +85°C,
- 5 to 30 Vdc power supply,
- Standard resolution : 8192 points per revolution (13 bits resolution),
- High resolution available in option: 65 536 points par revolution (16 bits resolution),
- Turns numerisation up to 65 536 (16 bits),
- Connection via M12 connectors,
- DPV0, Class 2, encoder profile 3.062,
- PHK5 also available with SSI, programmable SSI, CANopen and RS232 interface.



### DIMENSION : PHK5 Profibus - connection 3xM12 - with DACs 9445/016\* mounted on bearings housing



\* Accessory to be ordered separately (standard DAC system : M9445/016)

### MECHANICAL CHARACTERISTICS

Material	Cover : treated steel	Vibration (EN60068-2-6)	≤ 100m.s <sup>-2</sup> (10 ... 2 000 Hz)
	Body: aluminium	EMC	EN 61000-6-4, EN 61000-6-2
	Shaft : stainless steel	Isolation	100V (1 min)
Bearings	6 803 serie	Weight	0,700 kg
Maximum load	Axial : 20 N	Operating temperature	- 20 ... + 85 °C (encoder T°)
	Radial : 50 N	Storage temperature	- 20 ... + 85 °C
Shaft inertia	≤ 2,2.10 <sup>-6</sup> kg.m <sup>2</sup>	Protection(EN 60529)	IP 65
Torque	≤ 6.10 <sup>-3</sup> N.m	Torque (ring pressure screw)	nominal: 1.5N.m, break: 2.0N.m
Permissible max. speed	6 000 min <sup>-1</sup>	Theoretical mechanical lifetime 10 <sup>9</sup> turns (F <sub>axial</sub> / F <sub>radial</sub> )	
Continuous max. speed	6 000 min <sup>-1</sup>	10 N / 25 N	230
Shock (EN60068-2-27)	≤ 500m.s <sup>-2</sup> (during 6 ms)	20 N / 50N	29

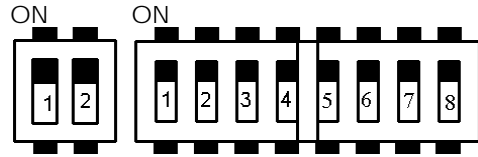
## ABSOLUTE MULTI-TURN ENCODER, PROFIBUS INTERFACE, PHK5 SERIE (3 x M12)

### GENERALITY

**Transmission frequency:** from 9.6Kbaud to 12Mbaud.

**Electronic interface:** opto-isolated RS485.

**Adress:** permits the addressing of each encoder in an installation (32 master stations or slaves stations per segment without repetitor, 127 maximum with repetitor).



End line resistance termination: 1, 2 "ON" (Beginning or end line)

Switch - on "ON"	1	2	3	4	5	6	7
=	1	2	4	8	16	32	64

Switch 8 on "OFF".

Example: Adress 5: Switch 1 & 3 on "ON", others on "OFF".

### PROGRAMMABLE PARAMETERS

**Direction :** Permits the definition of the counting direction of the encoder (CW or CCW) following its mechanical position.

**Resolution :** the number of points per turn can be between 0 and 8192, option: 0 to 65536.

**Global resolution (MAX RANGE) :** Total number of codes of the encoder (2 to 536 870 912, option 2 to 2 147 483 648).

**Reset :** defines the value of its actual position.

**Time base :** defines the base time for the speed calculation (10 ms , 100 ms, 1 s, speed in rpm).

### CONNECTION

#### BUS IN (M12 - 5 male pinouts B code)

Signal	NC	BUS A	NC	BUS B	NC
Pinout	1	2	3	4	5

NC : do not connect

#### BUS OUT (M12 - 5 female pinouts B code)

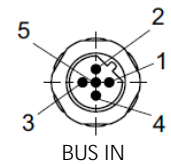
Signal	P5V	BUS A	BUS GND	BUS B	NC
Pinout	1	2	3	4	5

P5V & BUS GND for the connection of the end-line termination resistance.

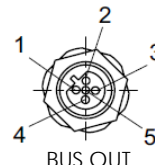
#### POWER SUPPLY (M12 - 4 male pinouts A code)

Signal	+Vcc	NC	0Vdc	NC
Pinout	1	2	3	4

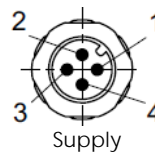
Power supply : 5-30V consumption <200 mA (160mA typ)



BUS IN



BUS OUT



Supply

### ORDERING CODE (Special versions upon request, for ex. special flanges/electronics/connections...)

	Shaft Ø	Supply	Interface	Code	Resolution	Turns Nb	Connection	Connection orientation
PHK5	14 : 14mm  Reduction hub available  15 : 15mm option	P : 5 to 30Vdc	BG : Profibus	B : Binary	13 : 8192 points per turn (2 <sup>13</sup> )  Option 16 : 65 536 points per turn (2 <sup>13</sup> )	B16 : 65 536 turns (2 <sup>16</sup> )  B15 : 32768 turns (2 <sup>15</sup> )	BH: 3 connectors M12	R : radial
Ex: PHO5_	14 //	P	BG	B //	13	B16 //	BH	R

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